

# ALUMINUM ELECTROLYTIC CAPACITORS

**LP series**      **85°C 2000HRS**  
**85°C 2000 小時**

- Snap-in Terminal Type  
自立型產品
- High Ripple Current And Low Impedance  
高紋波、低阻抗
- Used in Switch Power Supply, Smoothing Circuits.  
Adapter, Inverter Lighting System.  
應用於開關電源、平流電路  
適配器、變壓照明系統

## SPECIFICATIONS

Item 項目	Performance Characteristics 特性																		
Operating Temperature Range 工作溫度範圍	-40°C ~ +85°C (10~250V) -25°C ~ +85°C (315~500V)																		
Rated Voltage Range 額定電壓範圍	10~500W.V																		
Capacitance Range 靜電容量範圍	68~82000uF																		
Capacitance Tolerance 靜電容量誤差	±20% (120Hz, +20°C)																		
Leakage Current 洩漏電流	$I \leq 3\sqrt{CV}$ After 5 minutes with rated working voltage applied at +20°C (印加額定工作電壓 5 分鐘) $I$ =Leakage Current( $\mu A$ ) $C$ : Nominal capacitance in $\mu F$ $V$ : Rated voltage in V $I$ =洩漏電流( $\mu A$ ) , $C$ =額定容量( $\mu F$ ) , $V$ =額定電壓(V)																		
Dissipation Factor ( $\tan \delta$ ) 散逸因素 (損失角正切值)	<table border="1"> <tr> <td>Rated voltage (V) 額定電壓 (V)</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> <td>80</td> <td>100</td> </tr> <tr> <td>Tan <math>\delta</math> 損失角正切值</td> <td>0.55</td> <td>0.50</td> <td>0.45</td> <td>0.40</td> <td>0.35</td> <td>0.30</td> <td>0.25</td> <td>0.20</td> </tr> </table>	Rated voltage (V) 額定電壓 (V)	10	16	25	35	50	63	80	100	Tan $\delta$ 損失角正切值	0.55	0.50	0.45	0.40	0.35	0.30	0.25	0.20
	Rated voltage (V) 額定電壓 (V)	10	16	25	35	50	63	80	100										
	Tan $\delta$ 損失角正切值	0.55	0.50	0.45	0.40	0.35	0.30	0.25	0.20										
	(120HZ/ +20°C)																		
<table border="1"> <tr> <td>Rated voltage (V) 額定電壓 (V)</td> <td>160-420</td> <td>450-500</td> </tr> <tr> <td>Tan <math>\delta</math> 損失角正切值</td> <td>0.15</td> <td>0.20</td> </tr> </table>	Rated voltage (V) 額定電壓 (V)	160-420	450-500	Tan $\delta$ 損失角正切值	0.15	0.20													
Rated voltage (V) 額定電壓 (V)	160-420	450-500																	
Tan $\delta$ 損失角正切值	0.15	0.20																	
	For capacitance value > 33000uF, add following calculated value:( rated capacitance-33000uF)/10000uF x 0.1 容量 > 33000uF 時,增加以下計算值:(額定容量-33000uF)/10000uFx0.1																		

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Low Temperature Stability Impedance Ratio(MAX) 低溫特性阻抗比率	Rated Voltage (V) 額定電壓(V)	10-100	160-250	315-385	400-450	500
	$Z(-25^{\circ}\text{C})/Z(+20^{\circ}\text{C})$	4	3	5	8	8
	$Z(-40^{\circ}\text{C})/Z(+20^{\circ}\text{C})$	15	15	---	---	---
Load Life 負荷壽命	Application of rated voltage for 2000HRS at 85°C, the capacitor shall meet the characteristics requirement listed as following. 在 85°C 下印加額定電壓 2000 小時後, 電容特性需滿足以下要求.					
	Capacitance Change 容量變化	$\leq \pm 20\%$ of the initial measured value 不超出初始值的 $\pm 20\%$				
	$\tan \delta$ 損失角正切值	$\leq 200\%$ of the initial specified value 不超出規格值的 2 倍				
	Leakage Current 洩漏電流	$\leq$ The initial specified value 不超出規格值				
Shelf Life 放置壽命	After storing it for 1000HRS at 85°C with no voltage applied. The capacitor shall meet the following requirements. 電容放置在 85°C 無印加電壓的情況下儲存 1000 小時後, 電容需符合以下要求。					
	Capacitance Change 容量變化	$\leq \pm 15\%$ of the initial measured value 不超出初始值的 $\pm 15\%$				
	$\tan \delta$ 損失角正切值	$\leq 150\%$ of the initial specified value 不超出規格值的 1.5 倍				
	Leakage Current 洩漏電流	$\leq$ The initial specified value 不超出規格值				

## Frequency coefficient

頻率系數

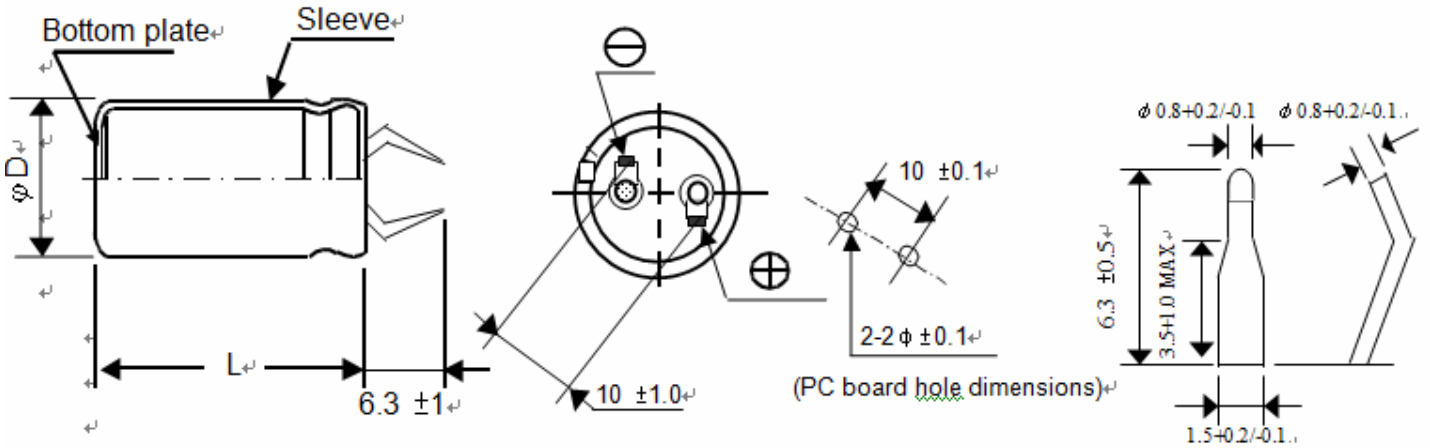
Freq(Hz)	60	120	1K	10~100K
W.V				
10~100	0.90	1.00	1.15	1.25
160~250	0.80	1.00	1.15	1.47
315~500	0.80	1.00	1.15	1.47

# ALUMINUM ELECTROLYTIC CAPACITORS

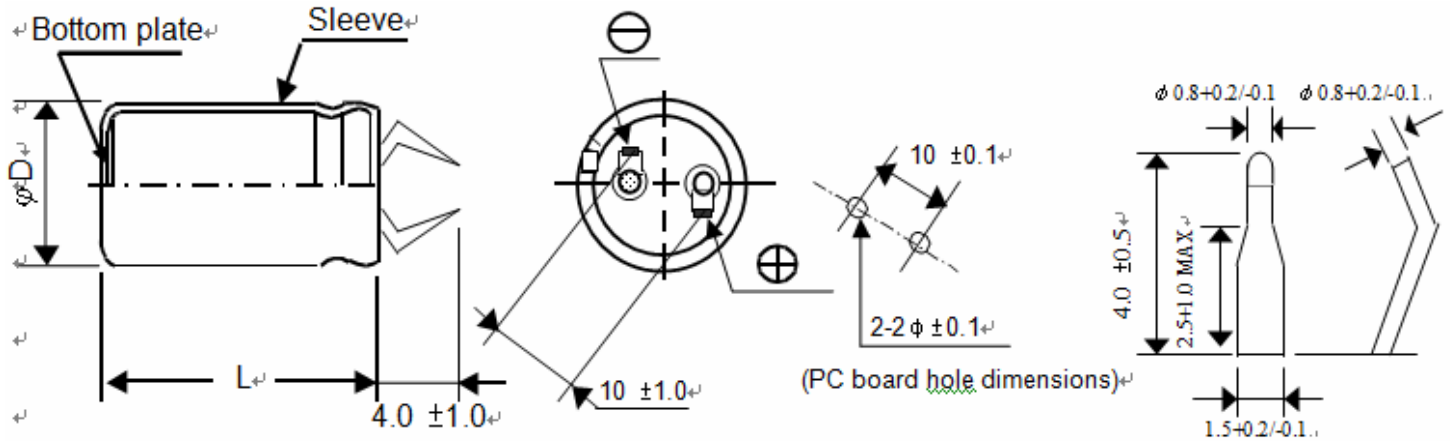
## LP series

### DIMENSIONS 尺寸(mm)

●TYPE. TB( $22 \leq D \leq 35$ )



●TYPE. TC( $22 \leq D \leq 35$ )



$\varphi D + 1.0 \text{ MAX}$
$L \pm 2.0$



# ALUMINUM ELECTROLYTIC CAPACITORS

## LP series

### STANDARD SIZES AND RIPPLE CURRENT

尺寸及紋波標準

		DxL(mm) Ripple Current (mA 85°C,120Hz) r.m.s																
w.v		10V		16V		25V		35V		50V		63V		80V		100V		
Cap(uF)		1A		1C		1E		1V		1H		1J		1K		2A		
18000	183	20x40	3310	22x40	3980	25x45	4680	30x45	5300									
		22x35	3220	25x35	3980	30x35	4680	35x40	5710									
		25x30	3080	30x30	3880	35x30	4680											
22000	223	22x40	3790	22x50	4520	30x40	5330	35x45	6380									
		25x30	3660	25x40	4440	35x35	5260											
		30x25	3530	30x30	4380													
27000	273	22x45	4040	25x45	4980	30x45	6020	35x50	6900									
		25x35	4040	30x35	4950					6020								
		30x30	3990	35x30	4820													
33000	333	22x50	4580	25x50	5490	35x45	6750											
		25x40	4560	30x40	5600													
		30x30	4580	35x30	5460													
39000	393	25x45	5290	30x45	6210	35x50	7560											
		30x35	5210					6120										
		35x30	5500															
47000	473	25x50	5780	30x50	6930			35x65	7000									
		30x40	5780			6890												
		35x35	5550															
56000	563	30x45	6590	35x45	7690													
		35x35	6400															
68000	683	30x50	7500															
		35x40	7480															
82000	823	35x50	8500															



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		DxL(mm) Ripple Current (mA 85°C,120Hz) r.m.s															
Cap(uF)	w.V	160V		200V		220V		250V		400V		420V		450V		500V	
		2C		2D		2B		2E		2G		2H		2W		2Z	
68	680									20x25	750	20x25	700	20x30 22x25	700 710		
82	820									20x30 22x25	820 840	20x30 22x25	800 850	20x35 22x25	800 860		
100	101									20x30 22x30 25x25	950 990 990	20x35 22x30 25x25 30x20	900 970 980 900	22x30 20x35 25x25	950 880 970	25x25 30x25	800 900
120	121									20x35 22x30 25x25	1070 1090 1130	20x35 22x30 25x25	1040 1070 1080	20x40 22x35 25x25 25x30 30x25	990 1070 970 1090 1120	25x30 30x25	890 900
150	151									20x40 22x35 25x30	1220 1260 1270	20x45 22x35 25x30 30x25	1170 1210 1260 1300	22x40 22x40 25x30 25x35 30x25	1000 1180 1250 1330 1290	25x35	1070
180	181					20x25	1110	20x25	1200	22x40 25x30 30x25	1410 1440 1520	22x40 22x45 25x35 30x25	1330 1400 1420 1480	22x40 22x45 25x35 30x30	1250 1320 1400 1450	30x35	1300
220	221			20x25	1190	20x25 22x25	1230 1300	22x25 20x30	1240 1260	22x45 25x35 25x40 30x30	1580 1640 1740 1660	22x40 22x45 25x35 25x40 30x30	1470 1550 1670 1670 1650	22x45 25x40 25x45 30x30 35x30	1560 1590 1560 1640 1660	25x45 35x30	1400 1410
270	271	20x25	1280	22x25 20x30 22x35	1370 1390 1550	22x25 20x30	1420 1460	22x30 20x30	1500 1420	22x45 25x35 25x40 30x30	1750 1690 1790 1820	22x45 22x50 25x40 30x35 35x30	1710 1780 1740 1900 1940	25x40 25x45 30x35 35x30	1640 1730 1890 1900	25x50 30x40	1600 1550
330	331	20x25	1550	20x30 22x25 22x35	1560 1510 1550	22x30 25x25 20x35	1590 1590 1640	20x35 22x30 25x25	1680 1660 1610	25x45 30x35 35x30	2000 2050 2050	25x45 25x50 30x35 35x35	2100 2200 1980 2170	25x50 30x45 30x50 35x35	2110 2120 2200 2150	30x45	1800
390	391	20x30 22x25	1630 1630	22x30 20x35 25x25	1730 1720 1710	20x40 22x35 22x40 25x25	1790 1800 1790 1750	20x40 22x35 25x30	1920 1880 1880	25x45 30x30 30x40 30x45 35x35	2140 2180 2260 2300 2280	25x45 30x40 30x40 35x35	2110 2220 2270	30x40 30x45 35x40	2240 2350 2380	30x50	2100
470	471	20x35 22x30 25x25	1900 1860 1860	20x40 22x30 22x45 25x30	2030 1970 1800 2000	22x35 22x40 25x30 30x25	2060 2180 2080 2160	22x40 25x35 30x25	2150 2150 2040	25x45 25x50 30x45 35x40	2330 2370 2510 2540	25x45 30x45 35x40	2300 2500 2610	35x45	2680		
560	561	20x40 22x30 25x30	2140 2150 2150	22x40 25x30 30x25	2180 2150 2150	22x40 25x35 30x25	2220 2380 2180	22x45 25x35 30x30	2048 2035 2035	30x45 35x45	2740 2850	30x45 35x45	2830 2950				
680	681	22x40 25x30 30x25	2350 2330 2330	22x35 22x45 25x45 30x30	2220 2480 2300 2480	22x45 25x35 25x40 30x30	2620 2420 2560 2520	22x45 22x50 25x40 25x45 30x35	2620 2740 2670 2810 2710	30x45 35x50	2.90 3.10	30x45	3950				

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Cap(uF)		w.V		DxL(mm) Ripple Current (mA 85°C,120Hz) r.m.s															
				160V		200V		220V		250V		400V		420V		450V		500V	
		2C		2D		2B		2E		2G		2H		2W		2Z			
820	821	22x45 25x35 30x30	2680 2650 2640	22x45 22x50 25x40 30x30	2680 2810 2790 2750	22x50 30x35 25x45 35x30	2840 2840 2910 2790	30x35 35x30 25x50	2980 2960 3010	30x60	3100			35x50	2950				
1000	102	22x50 25x40 30x30	3020 3000 2960	22x45 30x35 35x30	2900 3150 3250	25x50 30x40 35x30	3530 3360 3290	30x45 35x35	3560 3480	35x60	4000								
1200	122	25x45 30x35 35x30	3430 3410 3400	25x50 30x40 35x35	3610 3610 2570	30x45 35x35	3720 3680	30x50 35x40	3990 3840	35x60	4100								
1500	152	30x40 35x35	3960 3940	30x45 35x40	4130 4060	35x40	4100	35x45	4330										
1800	182	30x45 35x35	4310 4280	35x45	4590	35x45	4520	35x50	4540										
2200	222	35x40	4960	30x60 35x50	4830 5250														
2700	272	35x50	5570																